



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,908	07/26/2006	Julien Hernandez	1004900-000273	3883

21839 7590 02/04/2010
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

ABU ALI, SHUANGYI

ART UNIT	PAPER NUMBER
----------	--------------

1793

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

02/04/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com
offserv@bipc.com

Office Action Summary	Application No. 10/562,908	Applicant(s) HERNANDEZ ET AL.	
	Examiner SHUANGYI ABU ALI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-40, 55 and 56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-40, 55 and 56 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/13/2009 has been entered.

Claim Objections

Claim 28 is objected to because of the following informalities: please change "aqueous dispersion" to "aqueous dispersion D". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1793

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 28-29, 31, 33 - 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. patent No. 3,753,751 to Shannon et al., in view of GB 2256192

Regarding claim 28, Shannon et al. disclose a method of making insulation material (reinforced) by route of filter-press technique by dispersing insulation material in water to form slurry, then the slurry is partially dewatered and followed by treatment under heat and pressure. Further, a drying process is carried out to form the insulation material. (col. 7, line 1-21)

But they are silent that the insulation material is based on dried precipitated silica as applicant set forth in the instant application. However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to make a insulation material based on dried precipitated silica in the above process, motivated by the fact that GB 2256192, also drawn to making insulation material, discloses that precipitated silica can be used with rutile opacifier and ceramic fiber to form insulation material cheap and having improved physical reinforcement (pages 2-3).

Regarding claim 29, Shannon et al. disclose that the applied pressure is up to several hundred pounds per square inch depending upon the nature of the ensuing procedures. (col. 7, line 1-21)

Regarding claim 31, Shannon et al. disclose a method of making insulation material (reinforced) by route of filter-press technique by dispersing insulation material in water to form slurry, then the slurry is partially dewatered and followed by treatment under heat and pressure.

Art Unit: 1793

Regarding claims 33 - 34, GB 2256192, also drawn to making insulation material, discloses that precipitated silica can be used with rutile opacifier and ceramic fiber to form insulation material cheap and having improved physical reinforcement (pages 2-3).

Regarding claim 35, GB'192 discloses that the ratio of precipitated silica to reinforcement is 48:6.7.

Regarding claims 36 and 37, GB 2256192, also drawn to making insulation material, discloses that precipitated silica can be used with rutile opacifier and ceramic fiber to form insulation material cheap and having improved physical reinforcement (pages 2-3).

Regarding claim 38, GB'192 discloses that the ratio of precipitated silica to rutile is 48:33.3.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over combined teaching of U. S. patent No. 3,753,751 to Shannon et al. and GB 2256192, as applied above, further in view of U. S. Patent No. 4,590,052 to Chevallier et al.

Regarding claim 32, GB'192 discloses the silica has a BET of 170 m²/g. But they are silent about the CTAB value of the silica. However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the silica having the CTAB as applicant set forth in claim 32, motivated by the fact that Chevallier et al., also drawn to precipitated silica, disclose that silica having a BET of 50-350 m²/g

Art Unit: 1793

and a CTAB in the range of 20-350 m²/g has good insulation property (col. 1, lines 10-16 and col.3, lines 11-19).

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teaching of U. S. Patent No. 3,753,751 to Shannon et al and GB 2256192 , further in view of U. S. Patent No. 6,468,493 to Chevallier et al.

Regarding claim 30, Shannon et al. and GB 2256192 disclose a process of making insulation material based on precipitated silica as applicant set forth in claim 28

But they are silent that the filtration process is made under a pressure in the range of 0.5-2 bar.

Chevallier et al., also dawn to precipitated silica, disclose a process of making a silica cake by flittering the silica at a pressure. In the end of the filtration the pressure is in the rage of 3.5-6 bar (the beginning of the filtration is less than 3.5-6 bar). The filter cake is compacted at a pressure of less than 4.5 bar (col. 2, lines 25-30, and col. 4, lines 1-6)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to filtering the silica in a pressure as applicant set forth in claim 30, motivated by the fact that Chevallier et al., also dawn to precipitated silica, disclose that the silica filtered at a pressure of less than 4.5 bar and compacted at a pressure of 6.6 bar has beneficial property such as the enforcing property. (col. 2, lines 25-30, and col. 4, lines 1-6)

Claims 28, 39-40 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 3,753,751 to Shannon et al , in view of EP 0594469.

Regarding claim 55 and 56, Shannon et al. disclose a method of making insulation material (reinforced) by route of filter-press technique by dispersing insulation material in water to form slurry, then the slurry is partially dewatered and followed by treatment under heat and pressure. Further, a drying process is carried out to form the insulation material. Shannon et al. disclose that the applied pressure is several hundred pounds per square inch depending upon the nature of the ensuing procedures. (col. 7, line 1-21).

But they are silent that the insulation material is based on dried precipitated silica.

EP 0594469 discloses an insulation material comprising silica and the silica weight in the composition in the range of 45-90%, the opacifying agent, such as titanium oxide, with an amount of 9-50% and the reinforcement agent such as ceramic fiber, with an amount of 1-10% (page 2)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use precipitated silica in the above process, motivated by the fact that EP 0594469, also drawn to insulation material, discloses that precipitated silica can be used with an opacifier, such as titanium oxide, to form an insulation article with good thermal insulation property and satisfying strength (pages 1, lines 11-16).

Regarding claim 39-40, without showing unexpected results, the claimed temperature cannot be considered critical. Generally, differences in temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235. " In the instant case EP 0594469 discloses that the speed of drying must be preferably low enough not to cause a crack and the drying process is conducted in several stages. The first stage is at a temperature of 30-80 °C. The second drying stage can be conducted under the 110-130 °C and the third one is conducted under temperature of 450-850 °C.

Regarding claims 55-56, EP 0594469 discloses that the silica weight in the composition is in the range of 45-90%

Response to Arguments

Applicant's arguments filed 11/13/2009 have been fully considered but they are not persuasive.

The applicant argues that Shannon fail to disclose that the insulation material is based on precipitated silica and the secondary reference fail to disclose the steps of making the precipitated silica insulation as applicant set forth in the instant application. The Examiner respectfully submits that the rejection is based on the 35 U. S. C. 103 and one cannot show nonobviousness by attacking references individually where the

Art Unit: 1793

rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, the secondary reference teaches that the use of the precipitated silica, opacifier and reinforcement filler as insulation material has good thermal and insulation property. The primary reference teaches the filter –press process of making insulation material.

Applicant argues that Shannon is silent that the method can be applied to any other material other than alkaline earth material silicate. The Examiner respectfully submits that Shannon only disclose that their starting material has benefit over other material, which does not mean that their method is not applicable to the silica. The applicant fails to provide any factual evidence to show the contrary. The applicant's argument can take place of the evidence.

Applicant argues that Shannon disclose of using higher pressure in the compacting step. The Examiner respectfully submits that the higher pressure is used under the condition that the material is alkaline earth silicate, therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to discover the optimum pressure range for silica to obtain better insulation article by routine experimentation to obtain desired dry filter cake. Shannon disclose that the pressure is as high as 13 bar, which encompass the pressure disclose by the instant application. Furthermore the instant application discloses the pressure can be up to about 10 bar. “ about “ permits some tolerance.

Art Unit: 1793

Applicant further argues that the secondary reference disclose a higher pressure to compact the silica. The Examiner respectfully submits that the secondary reference is used to show the benefit of the insulation material made of precipitated silica.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/

Supervisory Patent Examiner, Art Unit 1793

/Shuangyi Abu-Ali/

Examiner, Art Unit 1793